

Revision of *Stenopialea* Speiser, 1920 (Diptera: Acroceridae: Panopinae)

by

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The southern African panopine genus *Stenopialea* Speiser is revised. *Stenopialea beckeri* Speiser and *S. nyasae* (Brunetti) (transferred from *Cyrtus* Latereille) are redescribed. *Stenopialea milleri* is described as new. The type locality of *S. primitiva* Schlinger (previously unknown) is given.

Stenopialea Speiser, 1920

Stenopialea was previously recorded only from the Cape Province of South Africa. It is now known to occur in the Natal Province of South Africa, as well as in southern Malawi. This distribution is somewhat disjunct and would suggest further records of the genus from intervening parts of southern Africa.

Schlinger (1960) made a generic diagnosis and commented on sexual dimorphism, based on a single female of *S. primitiva* Schlinger and by reference to the description of the male holotype of the type species, *S. beckeri* Speiser. With specimens of four species now to hand, a revised generic diagnosis and discussion on sexual dimorphism is possible. The diagnosis is based on that of Schlinger (1960).

Diagnosis: Total length 9.5–14.5 mm, closely related to *Pialea* Erichson; scapes very closely approximated; flagellum subequal to or longer than head height, but about two-thirds head height in *S. nyasae* (Brunetti); antennal insertion just above middle of head, below antennal tubercle; ocellar tubercle marginally above upper eye level, except in *S. beckeri* where it is half eye height above upper eye level; eyes dichoptic, pilose; proboscis short, subequal to scape length; maxillary palp absent; wing venation strong; humeral crossvein present; R_{2+3} always reaching *C* apically; six posterior cells (fourth closed), R_5 , M_1 , M_2 , $CuA_1 + M_3$ and $A_1 + CuA_2$ all reaching wing margin; genitalia terminal and ventral in both sexes.

Sexual Dimorphism: Unlike in *Pialea*, there is no variation with respect to the position of the antennal insertion. The following are, however, distinct sexual traits: flagellum longer and wider in male (length 1.2–1.5 \times head height in male, but at most subequal to head height in female; width 0.4–0.5 \times head height in male, at most 0.2 \times in female); eyes more widely separated below antennae in female (0.2–0.3 \times width of antennal tubercle in male; 0.5–0.8 \times in female); abdomen (in dorsal outline) distinctly more rotund in female.

Key to species of *Stenopialea*

- 1 Postpronotum and scutum yellow-brown, scutum with two or three dark vittae; pleuron partly yellow-brown **primitiva**
- Postpronotum brown to black, scutum brown to black (postalar callus pale brown to yellow-brown in *S. nyasae*), scutal vittae absent; pleuron entirely brown to black 2
- 2 R_{2+3} joining *C* at or near apex of R_1 , basal medial and m_3 cells separated (Fig. 7) **nyasae**
- R_{2+3} joining *C* midway between R_1 and R_4 or closer to R_4 than R_1 , basal medial and m_3 cells contiguous (Figs 5 & 6) 3
- 3 Ocellar tubercle present (Fig. 1); antennal tubercle and scape visible in profile (Fig. 1); $A_1 + CuA_2$ subequal to $r-m$ length (Fig. 5) **beckeri**
- Ocellar tubercle absent (Fig. 2); antennal tubercle and scape not visible in profile (Fig. 2); $A_1 + CuA_2$ twice $r-m$ length (Fig. 6) **milleri**

Stenopialea beckeri Speiser (Figs 1, 5, 9–10)

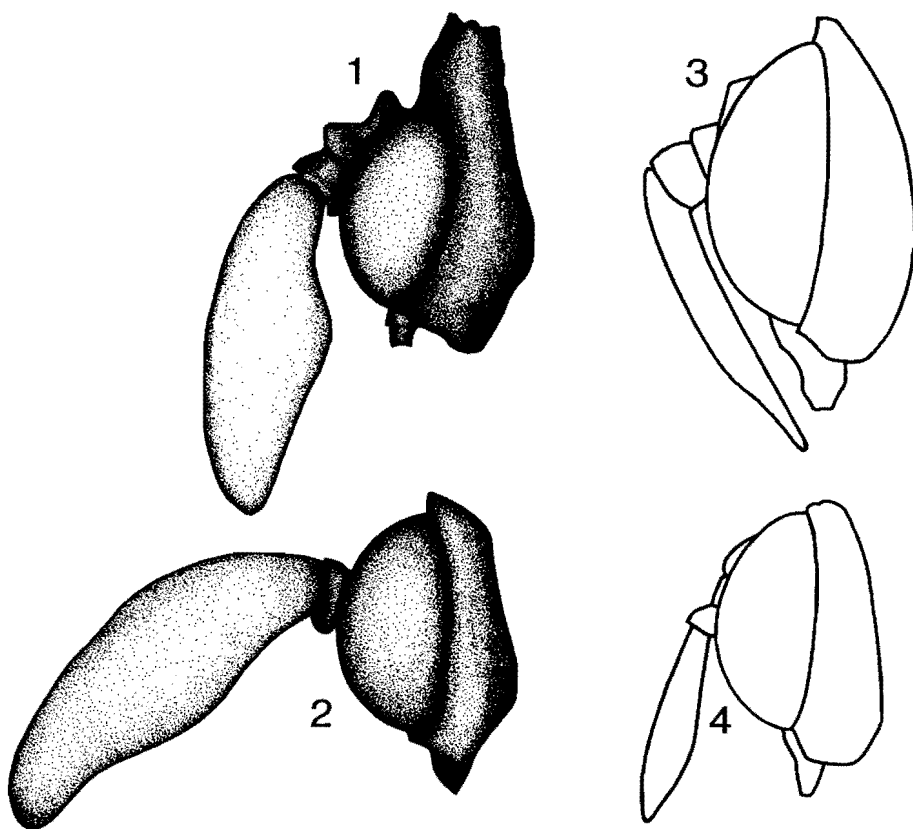
Stenopialea beckeri Speiser, 1920: 207–208.

REDESCRIPTION: MALE. Total length 10.4 mm; length of wing from extreme base 7.8 mm.

Colour: Yellow-brown, brown and black. Yellow-brown: pro- and metathoracic spiracles; calypter rim; pulvilli; TII posterior one- to two-fifths, TIII anterolateral margins and posterior two-fifths, TIV anterolateral margins and posterior two- to three-fifths, TV anterior margin and posterior half, TVI posterior third; SI–SVI (SI–SIV somewhat transparent). Brown: flagellum; haltere (stem partly yellow-brown); tibiae (sometimes partly blackish, particularly on anterior surfaces); tarsi; wing veins (extreme base of *C* and *Sc* blackish). Black: eye; scape and pedicel; antennal tubercle; area below antennae between eyes; ocellar tubercle; occiput; proboscis covering; postpronotum; scutum (postalar callus may appear very dark brown); entire pleural region and mediotergite; coxae; trochanters; femora (may appear partly brownish apically); tarsal claws; TI, TII anterior three- to four-fifths, TIII anterior three-fifths (except anterolateral margins), TV anterior half (except anterior margin), TVI anterior two-thirds, TVII (Fig. 9).

Pile: White to pale yellow; $1.2-2.0 \times$ tarsal claw length on eye, ocellar tubercle, occiput, postpronotum, scutum (shorter and less dense on posterior half), scutellum, anepisternum, anepimeron, anatergite, mediotergite, upper margin of katapisternum, calypter surface and rim, coxae, femora, mid and hind tibiae, tergites (longer and more dense medially), SII–SV (concentrated medially and on posterior half); shorter on fore tibia and all trochanters (subequal to tarsal claw length). Pedicel with very short lateral pile; tarsal pile sparse, at most half tarsal claw length.

Head (Fig. 1): Small, about $0.4 \times$ thorax height; ocellar tubercle well developed, divided into lateral halves separated by about $0.6 \times$ antennal tubercle width, each half rugose dorsally, extending half eye height above upper eye level and depressed along medial margin by about antennal tubercle length; antennal tubercle, scape and pedicel visible in profile; flagellum enormous, length $1.7 \times$ eye height, width $0.6 \times$ eye height, narrower basally and apically; space between eyes midway between antennal insertion and proboscis covering $0.2 \times$ antennal tubercle width, but $2.0 \times$ this width at upper and lower extremes; occiput occupies about two-fifths of head capsule.



Figs 1-4. *Stenopialea* spp., heads, lateral aspects (pile omitted). 1. *Stenopialea beckeri* Speiser, ♂ (holotype). 2. *Stenopialea milleri* sp. nov., ♂ (holotype). 3. *Stenopialea primitiva* Schlinger, ♀. 4. *Stenopialea nyasae* (Brunetti), ♀ (holotype).

Thorax: Postpronotal length $1.5 \times$ head width; scutellum $2.0 \times$ as wide as long; calypter hyaline; wing (Fig. 5) hyaline; *Sc* joining *C* $0.5 \times$ wing length from base, *R*₂₊₃ joining *R*₅ midway between *r-m* and junction of *R*₅ with *R*₁, *R*₂₊₃ curving anteriorly at apex to join *C* about halfway between *R*₁ and *R*₄, cell *cup* very narrow apically (maximum width subequal to *r-m* length), *A*₁+*CuA*₂ subequal to *r-m* length; fore femur, and to a lesser extent mid femur, swollen relative to fore and mid tibiae, fore and mid femora subequal in length to tibiae, hind femur $1.2 \times$ length of tibia; fore and mid tibiae marginally shorter than tarsi, hind tibia marginally longer than tarsus.

Abdomen (Fig. 9): Length $2.0 \times$ thorax length, width $1.8 \times$ width of scutellum; seven tergites (TVII only just exposed) and seven sternites visible; aedeagus as in Fig. 10.

MATERIAL EXAMINED. Holotype, ♂: SOUTH AFRICA: 'Capland [= Cape Province]/Willowmor[e]/25.v.1907/Dr. Brauns.' The holotype bears three other labels: 'Stenopialea/beckeri m./P. Speiser det./Type.' [Speiser's hand]; 'Stenopialea/Beckeri [sic]/Speiser/Type' [red card, Speiser's hand]; 'Stenopialea/beckeri Speiser./Type. 56.' [red ink]. In Natal Museum, Pietermaritzburg.

This, the type species (by original designation), is known only from the male holotype. It is the only species recorded from the Cape Province of South Africa. It is distinguished from the other species in having the ocellar tubercle extending half the eye height above the upper eye level (Fig. 1).

The holotype is in fairly good condition, although some of the pile (particularly on the head, scutum and calypters) is matted with greasy deposits. The left wing was very loosely attached, and was therefore removed and mounted on a cellulose strip. The holotype, previously in the Transvaal Museum collection, has been transferred to the Diptera collection of the Natal Museum, where it will remain.

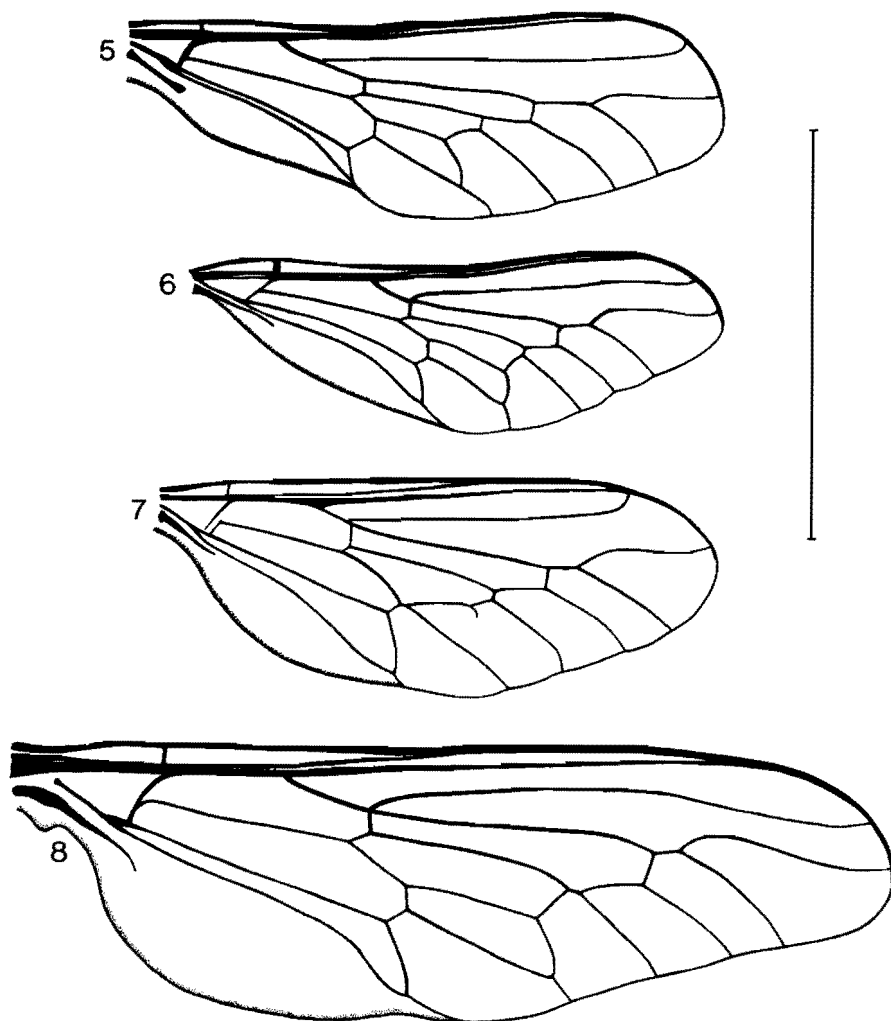
***Stenopialea milleri* sp. nov.** (Figs 2, 6, 11–12)

MALE. Total length 9.6 mm; length of wing from extreme base 6.6 mm.

Colour: Yellow-brown and black. Yellow-brown: pro- and metathoracic spiracles; calypter rim; fore and mid femora apical fifths, hind femur apical sixth; tibiae; tarsi; pulvilli; TII hind margin, TIII anterolateral corners and posterior third, TIII anterolateral margins and posterior two-fifths, TIV anterolateral corners and posterior half, TV anterolateral corners and posterior two-fifths (Fig. 11); SI (whitish anteriorly and laterally), SII (posterior one- to two-fifths whitish), SIII medial half and extreme lateral margins (posterior one- to two-fifths whitish), SIV lateral margins, SV posterior one- to two-fifths, SVI posterior two- to three-fifths, SVII. Brown: flagellum; postalar callus upper margin; haltere (stem partly yellow-brown); wing veins (apical three-fifths of anterior margin, including *C*, *Sc* and *R*₁, partly blackish); tibial spurs; TIV anterior half (except anterolateral corners), TV anterior three-fifths (except anterolateral corners), TVI; SIII lateral quarter (except extreme lateral margins and posterior one- to two-fifths), SIV (except lateral margins), SV anterior three- to four-fifths, SVI anterior two- to three-fifths. Black: eye; scape and pedicel (partly brown ventrally); antennal tubercle; area below antennae between eyes; ocellar tubercle region; occiput; proboscis covering; entire thorax, except postalar callus upper margin, upper margin of katepisternum and upper/posterior margins of anepisternum, which are all very dark brown; coxae; trochanters; fore and mid femora basal four-fifths, hind femur basal five-sixths; tarsal claws; TI (except hind margin), TII anterior two-thirds (except anterolateral corners), TIII anterior three-fifths (except anterolateral margins).

Pile: Yellow; particularly long (1.5–2.0 × length of other pile) on postpronotum, scutum anterior to wing base (very dense), anepisternum, anepimeron (one side only), anatergite and TV; pile otherwise subequal to tarsal claw length and present on eye, occiput, posterior half of scutum, scutellum, mediotergite, katepisternum (sparsely), calypter surface and rim, coxae, trochanters, femora, tibiae, TI, TII, TIII–TIV (very sparsely, mostly on lateral margins), TVI (lateral margins only), SI–SVII (concentrated posteromedially). Tarsal pile sparse to absent, at most half tarsal claw length.

Head (Fig. 2): Small, about 0.3 × thorax height; ocellar tubercle area depressed; antennal tubercle small, not visible in profile; scape concealed, but pedicel vis-



Figs 5–8. *Stenopialea* spp., wings. 5. *Stenopialea beckeri* Speiser, ♂ (holotype). 6. *Stenopialea milleri* sp. nov., ♂ (holotype). 7. *Stenopialea nyasae* (Brunetti), ♀ (holotype). 8. *Stenopialea primitiva* Schlinger, ♀. (Scale = 5 mm).

ible in profile; flagellum enormous, length $1.8 \times$ eye height, width $0.6 \times$ eye height, narrower basally and apically; space between eyes midway between antennal insertion and proboscoidal covering $0.3 \times$ antennal tubercle width, but $2.0 \times$ this width at upper and lower extremes; occiput occupies about two-fifths of head capsule, marginally raised above upper eye level by $0.3 \times$ antennal tubercle length.

Thorax: Postpronotal length $1.4 \times$ head width; scutellum $2.6 \times$ as wide as long; calypter hyaline; wing (Fig. 6) hyaline; *Sc* joining *C* $0.5 \times$ wing length from base, R_{2+3} joining R_5 coincident with $r-m$, R_{2+3} curving anteriorly near apex and joining *C* $0.6 \times$ the distance between R_1 and R_4 , cell *cup* narrow apically (maximum width $1.5 \times r-m$ length), A_1+CuA_2 $2.0 \times r-m$ length (left wing with cell *cup* having aberrant cross-vein in apical quarter); fore and mid femora subequal in length to tibiae, hind femur $1.2 \times$ length of tibia; fore and mid tibiae subequal in length to tarsi, hind tibia $1.2 \times$ length of tarsus.

Abdomen (Fig. 11): Length $1.9 \times$ thorax length, width $2.2 \times$ width of scutellum; six tergites and seven sternites visible; aedeagus as in Fig. 12.

ETYMOLOGY. Named for the collector, Ray Miller.

MATERIAL EXAMINED. Holotype, ♂: 'SOUTH AFRICA: Natal/Pietermaritzburg, Town/Bush, 29.iii.1980/R. Miller'. The holotype bears another label: 'HOLOTYPE ♂/Stenopialea milleri/sp. n./Det. D. A. Barraclough 1984'. In Natal Museum, Pietermaritzburg (type number NM 2941).

Stenopialea milleri is one of two species known from the Natal Province of South Africa. It is distinguished from the other species in having the following combination of characters: thoracic dorsum (except postalar callus upper margin) black and ocellar tubercle area not visible in profile (Fig. 2).

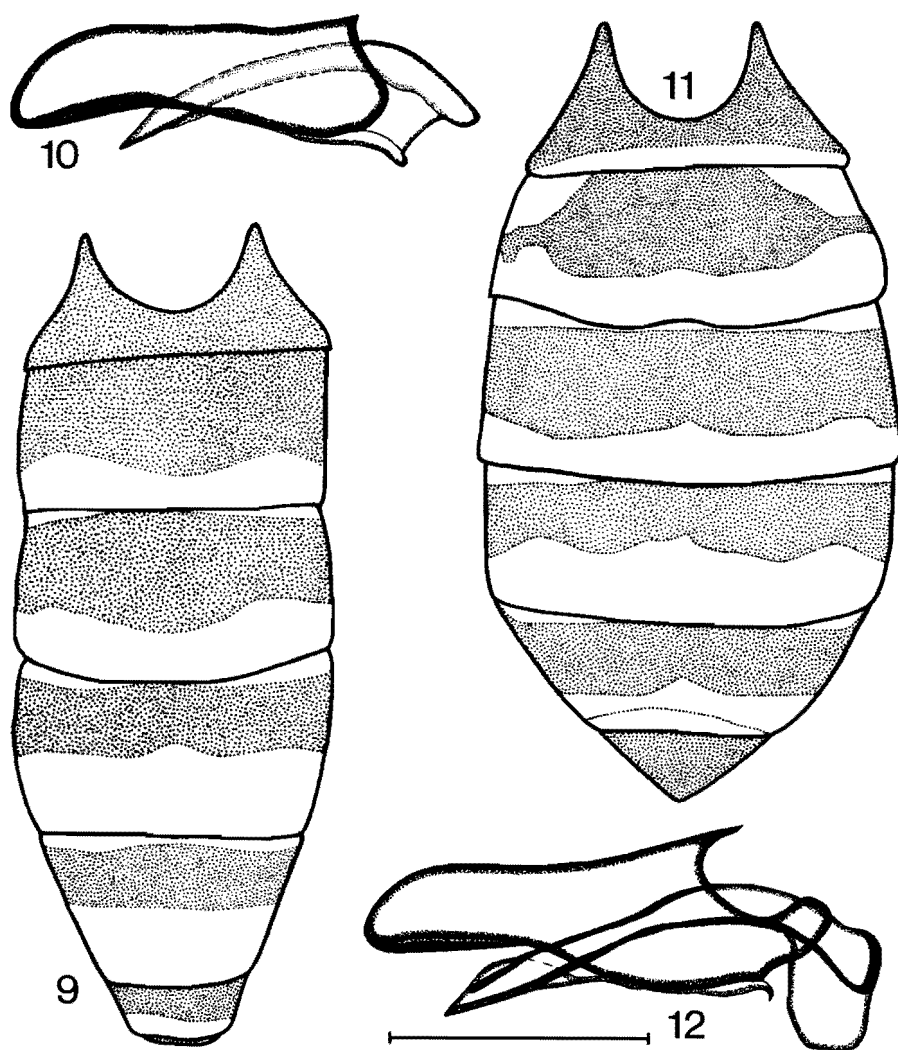
Stenopialea nyasae (Brunetti, 1926) comb. nov. (Figs 4, 7)

Cyrtus nyasae Brunetti, 1926: 585.

REDESCRIPTION: FEMALE. Total length 10.0 mm; length of wing from extreme base 7.3 mm.

Colour: Yellow-brown, brown and black. Yellow-brown: postalar callus; scutellum; pro- and metathoracic spiracles; haltere; calypter rim; tarsi; pulvilli; wing veins (apical three-fifths of *C* brown); TI (except anterolateral corners), TII lateral sixth and posterior two-fifths, TIII lateral sixth and posterior two- to three-fifths; SI, SII posterior two-thirds, SIII posterior two- to three-fifths (narrower laterally), SIV posterior third, SV posterior third, SVI posterior margin. Brown: scape; pedicel; flagellum; postpronotum; scutum (excluding postalar callus), although median and posterolateral sections are partly blackish; pleuron (anteroventral corner of anepisternum blackish) and mediotergite; coxae; trochanters; femora; tibiae (may be yellow-brown, particularly posteriorly); TI anterolateral corners, TII anterior three-fifths (except lateral sixth), TIII anterior two- to three-fifths (except lateral sixth), TIV (posterior margin partly yellow-brown), TV, TVI; SII anterior third, SIII anterior two- to three-fifths (broadening laterally), SIV anterior two-thirds, SV anterior two-thirds, SVI (except posterior margin), SVII. Black: eye; antennal tubercle; area below antennae between eyes; ocellar tubercle region; occiput; proboscis; tarsal claws.

Pile: Pale yellow; longest ($1.0-2.0 \times$ tarsal claw length) on ocellar tubercle area, postpronotum, scutum, scutellum, anepisternum, anepimeron, anatergite, mediotergite, upper third to half of kataposternum, coxae, femora, TII, TIV-TV; pile otherwise $0.3-0.6 \times$ this length and present on eye, pedicel, occiput, calypter surface and rim, trochanters, tibiae, TI, TIII, SII-SVII. Tarsal pile sparse, at most half tarsal claw length.



Figs 9-12. 9-10: *Stenopialea beckeri* Speiser, ♂ (holotype). 9. Abdomen, dorsal aspect (pile omitted). 10. Aedeagus, lateral aspect. 11-12: *Stenopialea milleri* sp. nov., ♂ (holotype). 11. Abdomen, dorsal aspect (pile omitted). 12. Aedeagus, lateral aspect. (Scale = 0.5 mm, Figs 10 & 12).

Head (Fig. 4): Small, about $0.3 \times$ thorax height; ocellar tubercle undeveloped; antennal tubercle and scape just visible in profile, pedicel entirely visible in profile; flagellum large, length subequal to eye height, width $0.2 \times$ eye height, markedly narrower in apical third; space between eyes midway between antennal insertion and proboscoidal covering $0.8 \times$ antennal tubercle width and not broader at upper and lower extremes; occiput occupies about two-fifths of head capsule.

Thorax: Postpronotal length $1.2 \times$ head width; scutellum $2.0 \times$ as wide as long; calypter hyaline; wing (Fig. 7) very pale brown; Sc joining C just more than $0.5 \times$ wing length from base, R_{2+3} joining R_s just proximal (right wing) or distal (left wing) to $r-m$, R_{2+3} curving strongly anteriorly at apex to join C at R_1 (right wing) or just beyond (left wing), cell m_3 open (right wing) or closed (left wing) and separated from basal medial cell by $m-cu$ which is $0.2 \times$ (right wing) or $0.8 \times$ (left wing) $r-m$ length, cell *cup* broad apically (maximum width $2.0 \times r-m$ length), A_1+CuA_2 $0.5 \times$ (left wing) or $0.7 \times$ (right wing) $r-m$ length; fore and mid femora marginally longer than tibiae, hind femur $1.2 \times$ length of tibia; fore tibia subequal in length to tarsus, mid and hind tibiae $1.2 \times$ length of tarsi.

Abdomen: Length $1.7 \times$ thorax length, width $2.4 \times$ width of scutellum; six tergites and seven sternites visible.

MATERIAL EXAMINED. Holotype, ♀: MALAWI: 'Nyasaland/Mlanje plateau/12-14.xi.1913 6,500 ft./S. A. Neave.' The holotype bears three other labels: 'Type' [circular card with red margin]; '13.iii.13/S.A.N.'; 'Cyrtus nyasae/Brun type/Det. E. Brunetti 1926'. In British Museum (Natural History), London.

Stenopialea nyasae is the only species known from outside South Africa. It does not seem to be closely related to any of the South African species, and is easily distinguished from them in having R_{2+3} joining C at or near the apex of R_1 , and having the basal medial and m_3 cells separated (Fig. 7).

Brunetti (1926) described this species in the Palaearctic acrocerine genus *Cyrtus* Latreille. Schlinger (1960) was dubious about this generic placement, and suggested (without examining the holotype) that it could be a species of *Psilodera* Gray, although unlike other *Psilodera* species it was described as having long eye pile. When Schlinger (1980) catalogued the Acroceridae of the Afrotropical Region, *Cyrtus nyasae* was the only unplaced species. *Cyrtus nyasae* belongs to the Panopinae and not the Acrocerinae (which includes *Cyrtus*), and is assignable to *Stenopialea*, which differs from other Afrotropical panopine genera in having the eyes pilose and the antennal insertion just above the middle of the head.

The holotype is the only known specimen and is in fairly good condition, although part of the apical section of the right wing is missing.

Stenopialea primitiva Schlinger (Figs 3, 8)

Stenopialea primitiva Schlinger, 1960: 467-469.

This species, now known from two females, has been well described by Schlinger.

In the Natal Museum collection there is a single female of *S. primitiva*, which unfortunately has no label data, but was probably collected in Natal (it was collected by a student from the University of Natal, Pietermaritzburg). It is similar to the female holotype, but it differs in the following characters: scape and pedicel black, occiput

orange-brown dorsolaterally (head as in Fig. 3); three distinct dark brown to black scutal vittae, anatergite yellow-brown; R_{2+3} joining R_s coincident with (right wing) or just basad (left wing) of $r-m$, $m-m$ joining M_{1+2} just basad of fork (Fig. 8). The colour differences are minor and are probably due to varying degrees of greasiness, whereas the venational differences should be seen as intraspecific variation (in *S. nyasae* R_{2+3} joins R_s basad or distad of $r-m$).

Schlinger (1960) gave the label data for the female holotype of *S. primitiva* as follows: 'Cape Province (?), Marley, July 22, 1916 (E. E. Cook, C.M.).' Marley was obviously considered to be the locality and E. E. Cook the collector. I have examined the holotype and the label data is in fact as follows: 'Marley/22.vii.1916/K Kloof'. Thus the collector was H. W. Bell-Marley and the locality Krantzklouf Nature Reserve, 24 km NW of Durban in the Natal Province. The possibility of 'K Kloof' being an abbreviation of Karkloof (about 25 km NW of Pietermaritzburg) is obviated by the fact that Marley is known not to have left Durban and surrounding areas during the period in which the holotype was collected (I have examined his correspondence with the Director of the Natal Museum at that time). Schlinger (1960) misread the K's of 'K Kloof' as E's and being unable to trace Marley as a locality, suggested that the holotype was from the Cape Province because *S. beckeri*, the only other described species, was known only from Willowmore, eastern Cape Province.

Stenopialea primitiva is easily distinguished from the other species in having the postpronotum and scutum yellow-brown, two or three dark scutal vittae, and the pleuron partly yellow-brown. The holotype is in fairly good condition, although the abdomen is depressed, the terga crumpled and much of their pile abraded away. It is in the South African Museum, Cape Town.

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